

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

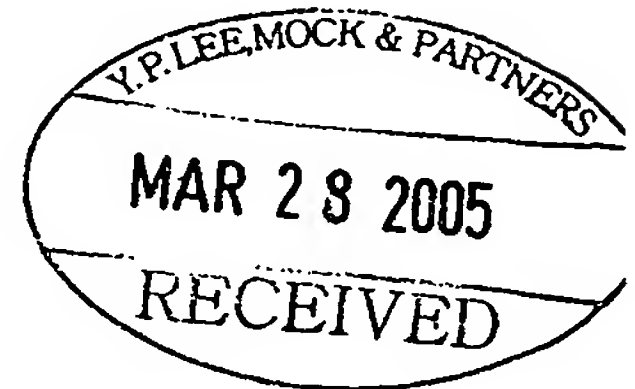
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PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)



Date of mailing
(day/month/year) 24 MARCH 2005 (24.03.2005)

Applicant's or agent's file reference

JL-23658-PCT

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/KR2004/003226

International filing date (day/month/year)

09 DECEMBER 2004 (09.12.2004)

Priority date(day/month/year)

09 DECEMBER 2003 (09.12.2003)

International Patent Classification (IPC) or both national classification and IPC

IPC7 C07C 303/40, C07C 311/37

Applicant

CJ CORPORATION, et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR



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920 Dunsan-dong, Seo-gu, Daejeon 302-701,
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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2004/003226

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
☐ table(s) related to the sequence listing

b. format of material

- ☐ in written format
☐ in computer readable form

c. time of filing/furnishing

- ☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2004/003226

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-6	YES
	Claims	None	NO
Inventive step (IS)	Claims	1-6	YES
	Claims	None	NO
Industrial applicability (IA)	Claims	1-6	YES
	Claims	None	NO

2. Citations and explanations :

Reference is made to the following documents:

D1: US 4,880,841 A

D2: EP 257,787 A1

1. Novelty and Inventive Step.

The present invention relates to a method of preparing an optically pure phenethylamine derivative which is an intermediate useful for preparing tamsulosin or its salts and a method of preparing tamsulosin or its salts using the optically pure phenethylamine derivative.

D1 relates to novel phenethylamine derivatives and the acid addition salts thereof, and more particularly to novel phenethylamine derivatives and the acid addition salts thereof exhibiting a strong α -adrenergic blocking action and useful as an antihypertensive agent.

D2 relates to a new process for producing optically active benzenesulfonamide derivatives which are represented by the general formula (I) and a process for producing formula VII by further reacting optically active benzenesulfonamide derivatives.

The subject matter of the present invention differs from the disclosure of D1-D2 mainly in that the method of preparing an optically pure compound having formula 1 relates to react (R)-2-(4-methoxy-3-aminosulfonyl-phenyl)-1-methylethylamine or its salts with α -halogenoacetic acid anhydride and α -halogenoacetyl halide in the presence of a base and an acylating agent. And said optically pure compound having formula 1 further reacts with 2-ethoxyphenol in presence of a base and is reduced. It cannot be considered obvious to a person skilled in the art, with knowledge of the cited documents, to use an optically pure compound and an acylating agent and to reduce for increasing an yield of production and preventing a side reaction.

Therefore, the subject matter of the present claims 1-6 is considered to be novel and to involve an inventive step under PCT Article 33(2) and (3).

2. Industrial Applicability

The subject matter of claims 1-6 is considered to be industrially applicable under PCT Article 33(4).